United States Department of the Interior
Bureau of Land Management

Environmental Assessment

DOI-BLM-CO-S050-2014-0017 EA

June 2014

Montrose County West-End Pit Free-Use Permit

Location: *West Montrose County*

U.S. Department of the Interior
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, CO 81401

Phone: (970) 240-5300

U.S. Department of the Interior
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, CO 81401

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-S050-2014-0017 EA

CASE FILE / PROJECT NUMBER: COC - 76506

PROJECT NAME: Montrose County West-End Pit Free-Use Permit

LEGAL DESCRIPTION: T. 46 N., R. 15 W., Sec. 17, NW¼ SW¼, N.M.P.M.

APPLICANT: Montrose County

INTRODUCTION AND BACKGROUND

Montrose County currently has a Free-Use Permit (FUP) for a gravel pit (FUP, COC-64652), which will expired on June 1, 2014. Montrose County has submitted a request for a Free-Use Permit (FUP, COC-76506) to continue operations at the pit. To assist in the maintenance of the county's rural road system, the county proposes to expand their existing gravel pit by 20.9 acres. Due to the extensive graveled road damage resulting from 2013's heavy monsoonal rain season, the county is requesting a 400,000 ton FUP over 10-years to provide a large contingency volume in case weather related damages to county roads extend beyond their current planning projections.

The gravel pit is located adjacent to the Nucla Airport. The active operation and the proposed expansion are on split-estate land where the county has the surface ownership and the mineral estate is under Federal ownership (see Appendix A). The Bureau of Land Management's (BLM) Uncompahgre Field Office (UFO) is preparing this environmental assessment (EA) to disclose and analyze the environmental effects of issuing the FUP.

As shown in the table below, historical production records for the three previous FUPs (over the past 25 years) show that the operation has excavated over the approximately 518,000 tons at an average production rate of about 21,000 tons per year.

FUP	TIMEFRAME (years)	AUTHORIZED VOLUME (cubic yards)	ACTUAL EXCAVATED VOLUME (cubic yards)	ACTUAL PRODUCTION (tons)*
COC - 50596	10 (1989-1999)	100,000	125,000	171,647
COC - 62350	5 (1999-2004)	200,000	62,629	85,802
COC - 67652	10 (2004-2014)	271,971	190,178	260,544
TOTAL	25	571,971	377,807	517,993

* conversion factor: 1.37 tons / cu. yd.

Montrose County has a 149-acre Colorado Division of Reclamation, Mining and Safety (CDRMS) mining permit (M-1992-017) issued in 1992 that in addition to the 50 acres of Federal mineral estate land, also includes lands and minerals that are solely owned by the county. To date, operations have not expanded onto the county-owned minerals area (see Appendix A, Map 3). For future mining and permit planning purposes, the pit expansion area when mined to a depth of 12 feet could produce over 444,000 tons of material (see Appendix C – Volume Calculation). This amount would provide the county with over 21 years of road maintenance material given the county's historic average production rate of 21,000 tons per year.

In 1999, EA number CO-150-1999-026 EA was completed for a five-year FUP (COC-62350) which analyzed an existing pit expansion project that increased the operation from 10 acres of Federal owned surface estate and Federal owned mineral estate land to a 50 acre operation. The additional 40 acres were split-estate land; Montrose County owns the surface land with Federally owned mineral estate (see Appendix A, maps 2 and 3). In 2004, a Determination of NEPA Adequacy (DNA) was completed for a ten-year FUP (COC-67652).

The CDRMS mining permit limits the county to 25 acres of un-reclaimed surface disturbance present at any given time. The operation currently has a total of 19.53 acres of un-reclaimed surface disturbance, of which 8.53 acres are planned to be reclaimed in the near future, as shown in Appendix A on Map 3 (also see Appendix C – Surface Disturbance Calculation). The previously disturbed (mined but not planned for reclamation near-term) 4.0 acre area when combined with the proposed 20.9 acre expansion area will result in 24.9 acres of disturbance.

PURPOSE AND NEED FOR THE ACTION

The purpose and need for the action is for BLM to respond to this FUP request pursuant to the Mineral Materials Act of July 31, 1947, which gives BLM the authority to permit mineral material disposal authorizations.

Decision to be made: The BLM will decide whether or not, and if so, under what terms and conditions, to issue Montrose County a 10-year FUP for 400,000 tons of mineral materials.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action: Montrose County proposes to extract up to 400,000 tons of pit-run fill material over a 10-year period. The mine operation would excavate fill material (including cobbles, pebbles, gravel and sand) over a 20.9 acre area to an approximate depth of 12 feet (Appendix A, Map 3 and Appendix B, photo 1). The mineral material deposit occurs as an alluvial bench on top of the Cretaceous Age Dakota Sandstone and is mined by open-pit mining methods.

There would be 13.9 acres of new disturbance; in anticipation of expanding the pit area, six to twelve inches of topsoil have already been stripped and stockpiled from 7 acres of land included in the previous FUP (COC-67652). On the 13.9 acres of proposed new surface disturbance, topsoil and overburden (if present) will be stripped, stockpiled and seeded with a BLM recommended seed mix. Overburden is material that is not strictly sand or gravel and is not acceptable for reclamation application as a growth medium. The overburden material can be used in concurrent reclamation as fill prior to applying the salvaged topsoil.

The operation uses a bulldozer, a front-end loader, screens, classifiers, crushers, conveyor belts and dump trucks to provide material to county roads needing maintenance. Pit operation and access road dust abatement would be achieved using water delivered with a water truck as needed. The operation does not anticipate using more than 0.02 acre-feet of water per year. The water is pumped out of Calamity Creek on CC Road in Nucla, Colorado.

Required reclamation would reduce the gravel pit high wall faces to a 3:1 (horizontal to vertical) slope configuration. Overburden material (if necessary) and the stockpiled topsoil would be placed on all surface disturbed areas before a BLM approved weed-free seed mix would be applied. Compliance with CDRMS and BLM reclamation standards is required before releasing reclamation liability.

As part of the operation's mine plan, the county proposes the following design features which would also be included in the FUP as special stipulations.

Design Features

1. Montrose County recognizes the importance of the control of non-native, invasive plant species (noxious weeds). The county agrees that to have a successful and thorough noxious weed control program, a BLM approved weed-free seed mix regimen, and/or a strict herbicide application strategy is needed. If applications of herbicide are required, it will be the responsibility of Montrose County to insure compliance with all local, state and federal laws and regulations, as well as labeling directions specific to the use of any given herbicide.

2. Montrose County will be responsible for all firefighting suppression costs for any wild land fire resulting from operations or practices associated with this authorized FUP.

3. If cultural or paleontological resources are discovered during operations under this FUP, Montrose County shall immediately notify the UFO Manager and shall not disturb such

discovered resources until the UFO Manager has issued specific instructions. Montrose County agrees to strictly adhere to the following conditions:

- Pursuant to 43CFR10.4(g), the UFO Manager must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43CFR10.4 (c) and (d), activities must stop in the vicinity of the discovery and the discovery must be protected for 30 days or until notified to proceed by the UFO Manager or their delegated representative.
- If in connection with operations under this FUP, the county, or any authorized contractors, sub-contractors, or other authorized employees, discovers, encounters or becomes aware of any objects or sites of cultural or paleontological value or scientific interest such as historic or prehistoric ruins, graves or grave markers, fossils, or artifacts, the operator shall immediately suspend all operations in the vicinity of the cultural or paleontological resource and shall notify the UFO Manager of the findings (16 U.S.C. 470h-3, 36CFR800.112). Operations may resume at the discovery site upon receipt of written instructions and authorization by the UFO Manager.
- Within 5 working days after notification of the discovery of any culturally related findings, the UFO Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.

4. The gravel pit operation and reclamation will at all times be in compliance with CDRMS permit number M-1992-017. Montrose County further agrees to:
   a. contact the UFO five (5) days prior to beginning reclamation activities, and
   b. reclamation of the site will be considered successful when the soil is erosionally stable and the re-vegetated plant community is at least 75% of the adjacent area's plant cover.

5. Montrose County will comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the county will comply with the Toxic Substances Control Act of 1976, as amended (15 USC 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the permit area as authorized under this FUP. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substance (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b (CERCLA). A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the UFO Manager concurrent with the filing of the reports to the involved Federal agency or State government. Montrose County will ensure that hazardous materials/hazardous wastes, trash or other solid waste will not be disposed of on public lands and acknowledges that the storage of leaking equipment, fuel, oil or other containerized substances is prohibited on public lands. All releases of these substances will be promptly reported to the UFO Manager, immediately cleaned up and properly disposed of by the county.

6. The county agrees to the employment of any other practices as prescribed by the UFO Manager which will enhance and protect the public interests and which may be prescribed after due investigation of the circumstances.

7. For public safety purposes, Montrose County will maintain a locked gate to limit access to the operation site during periods of non-use, including nightly closure.

8. Whenever excessive dust conditions exist, Montrose County agrees to employ dust abatement measures including but not limited to applying water or magnesium chloride to pit operations including the pit access road for the purpose of reducing or eliminating airborne dust produced by operations authorized under this FUP. To help control fugitive dust impacts, during operations and interim inactive periods until final reclamation is achieved, the county agrees to seed the overburden and the stockpiled topsoil material with a BLM approved weed-free seed mix (see design feature 10 below).

9. Montrose County provides the following that:

   - annual production reports will be reported to the UFO Manager by March 1,
   - production verification and compliance inspections will be permitted regularly until the project is completed,
   - the county is permitted to extract gravel only in the area approved in the FUP,
   - the pit boundaries will be identified by visible boundary markers and checked by the representative of the UFO Manager prior to any surface disturbance, and
   - the county will obtain all required approvals from other federal, state, and local agencies prior to conducting any operations associated with this FUP.

10. To better re-establish important winter range and sagebrush habitats post reclamation, the following seed mix shall be required for all BLM surface lands and is recommended for the private surface portion of the project unless the land owner desires something different.

    BLM places the following requirements on seed mixes which are put on BLM lands:

    a) Use the following minimum PLS (Pure Live Seed) tolerances

PLS tested %	Tolerance % points
81-100	-7
61-80	-6
41-60	-5
21-40	-4
0-20	-3

    b) All seed must comply with BLM and Colorado weed seed guidelines. There should be no prohibited species seed, and no more than allowable levels of restricted species seed. In addition, there should be no more that 0.5% total weed seed, less than 2% other seed, and no trash larger than ¼" in length. Seed shall not be stored in burlap bags.

    c) The UFO places additional local restrictions on seed to minimize cheatgrass spread. If seed tests show any *Bromus tectorum* or *Bromus japonicus*, the BLM should be

consulted with for approval. No mix placed on BLM shall contain more than 150 *Bromus tectorum* and/or *Bromus japonicus* seeds per pound.

d) BLM requires additional seed tests on seeding projects that are greater than 20 acres and/or require over 200 lbs. of seed. For these seeding projects, the project proponent should have the seed supply company store the purchased seed prior to mixing, and pull samples to be sent to a certified laboratory, preferably Wyoming State Laboratory at the following address. Seed test results must comply with the criteria listed above before seed is mixed, shipped and applied to the project area:

Wyoming State Laboratory
749 Road 9
Powell, WY 82435

e) BLM will need copies of seed tags and test results for all seed applied regardless of project size.

f) Only State Certified weed free mulch shall be used.

	A	B	C	D	E
Species	Desired % of planting	Multiplier (A x 0.01)	PLS lbs. for full stand	PLS lbs. per acre needed for mix (B x C)	PLS lbs. per acre for project (D x # acres)
Western Wheatgrass *(Pascopyrum smithii)* Variety Arriba	35	0.35	10	3.5	
Bottlebrush squirreltail *(Elymus elemoides)*	20	0.2	8	1.6	
Indian Ricegrass *(Acnatherum hymenoides)* Variety Paloma	14	0.14	8	1.12	
Sand Dropseed (*Sporobolus cryptandra*)	5	0.05	1	0.05	
Lewis Flax (*Linum lewisii*) Maple Grove	5	0.05	2.25	0.11	
Annual Sunflower (*Helianthus annuus*)	3	0.03	10	0.3	
Four-Wing Saltbush *(Atriplex canescens)* from western Colorado, E Utah	5	0.05	6	0.3	
Wyoming Big Sagebrush *(Artemisia tridentata wyomingensis)*	13	0.13	1	0.13	
Totals	100	1.0		7.11	

No Action Alternative: This alternative does not allow for the authorization of the FUP and Montrose County would not be permitted to excavate the requested material.

SCOPING AND ISSUES

An on-site inspection was conducted on February 20, 2014, and an interdisciplinary team meeting was held on February 27, 2014. Internal scoping by the team developed the following issues:

- Air Quality: How does the gravel operation impact dust and visibility?
- Soils: When topsoil is removed and stockpiled, what is the viability (for future reclamation) of stockpiled soil?
- Upland Vegetation: What are the impacts to, and potential loss of, native vegetation?
- Threatened, Endangered (ESA), Sensitive Species: How will potential water depletion and dust or dust abatement affect species, such as big river fish, lupine, sage sparrows?
- Migratory Birds: To what degree (if any) will the project impact sage obligate species?
- Wildlife, Terrestrial: Will (and how) the project impact big game critical winter range?
- Water – Surface: Is there a storm water management plan and, what are its effects?
- Wastes (hazardous or solid) (RCRA and CERCLA): Are there hazardous or solid waste concerns, and what is the potential impact, if any?
- Geology and Minerals: What are the geology/minerals, and how does the gravel operation impact geology or minerals in the area?

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5-3, BLM 1617.3):

Name of Plan: San Juan/San Miguel Resource Management Plan / Record of Decision

Date Approved: September 1985

Decision Number / Page: Page 17

Decision Language: The San Juan/San Miguel Record of Decision contains the following decision language for the area of the Proposed Action. Emphasis Area H (see page 48) – Public Land Disposal: the management direction for mineral material disposal is to continue to manage the federal mineral program for development.

Legal and Regulatory Authority:

- The Materials Act of 1947 (61 Stat 681),
- The Federal Land Policy Management Act (FLPMA) of 1976 (43 U.S.C. 1701 et seq.), and
- The Code of Federal Regulations (CFR) at 43 CFR 3600.

AFFECTED ENVIRONMENT AND ENVIRONMENTALCONSEQUENCES/MITIGATION

This chapter provides a description of the human and environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct and indirect effects on the affected environment stemming from the implementation of the Proposed Action. Cumulative impacts of the Proposed Action are described in the Cumulative Impacts Summary section.

Potential effects to the resources/concerns in the table (below) were evaluated to determine if detailed analysis is necessary. Consideration of some elements is to ensure compliance with laws, statutes, regulation or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general or to the BLM Uncompahgre Field Office (UFO) in particular. Any element not affected by the Proposed Action will not be analyzed.

Elements	[1]Not Present	[2]Present / No Analysis Needed	[3]Present / Requires Further Analysis	Rationale (if not analyzed)
Air Quality			X	
ACEC	X			There are not any Areas of Critical Environmental Concern within or near the Proposed Action area.
Wilderness	X			There are not any Wilderness Areas or WSAs within or near the Proposed Action area.
Lands with Wilderness Characteristics	X			There are not any lands with wilderness characteristics within or near the Proposed Action area.
Wild and Scenic Rivers	X			There are not any eligible or suitable Wild and Scenic River segments within or near the Proposed Action area.
Cultural		X		Seven acres of the project area is situated in previously disturbed surface, and is exempt from inventory under the provisions of BLM Manual 8110.23B2. For the remaining portion (13.9 acres), a Class III pedestrial inventory was completed in April 2014, with negative results. There are no known or anticipated National Register or otherwise eligible historic properties within the proposed expansion area.
Native American Religious Concerns	X			There are no known or anticipated native American Religious Concerns, sacred sites or Traditional Cultural Properties associated with this project or the general area.

Elements	[1]Not Present	[2]Present / No Analysis Needed	[3]Present / Requires Further Analysis	Rationale (if not analyzed)
Farmlands, Prime/Unique	X			The soils present are prime farmland if irrigated. However, the gravel pit is located on top of a mesa above the existing irrigation system and therefore is not considered prime farmland.
Soils			X	
Vegetation			X	
Invasive, Non-native Species		X		Design features require weed control. Potential impacts are not anticipated at a level that requires analysis or further mitigation
Threatened and Endangered Species			X	
Migratory Birds			X	
Wildlife, Terrestrial			X	
Wildlife, Aquatic	X			There are no water resources or aquatic wildlife within the project area or impacted by the project.
Riparian Zones & Wetlands	X			There are not any riparian zones or wetlands within the project area or impacted by the project.
Floodplains	X			There are not any floodplains within the project area or impacted by the project.
Water -- Surface			X	
Water -- Ground		X		Ground water would not be impacted by the project.
Wastes, Hazardous or Solid			X	
Environmental Justice	X			The project will not disproportionately impact minority or low income populations.
Socio-Economics	X			Montrose County would not need to purchase gravel from the open market, and the US Government would receive royalty fees. The social and economic impact would be minor and is not anticipated at a level that requires analysis.
Access		X		Access wouldn't be changed from the existing situation.
Transportation		X		Transportation wouldn't be changed from the existing situation.

Elements	[1]Not Present	[2]Present / No Analysis Needed	[3]Present / Requires Further Analysis	Rationale (if not analyzed)
Cadastral Survey	X			The Proposed Action will have no effect on existing surveyed boundaries.
Realty Authorizations	X			There are not any realty authorizations in the gravel pit area or impacts by the gravel pit operation.
Range Management	X			The pit area is not within a grazing allotment, and also is not used as private pasture.
Forest Management	X			There are no forest products on the site.
Fire	X			The gravel operation would not impact the occurrence or control of wild land fire.
Noise		X		The gravel operation currently exists, along with some associated noise. Noise levels are regulated by the state, and are part of the state-approved mine plan.
Recreation		X		Public recreational activities wouldn't change from the existing situation.
Visual Resources		X		Visual resources wouldn't change from the existing situation.
Geology and Minerals			X	
Paleontology	X			There is no potential for paleontological resources in the gravel pit area.
Law Enforcement	X			There are no law enforcement concerns within the gravel pit area.

[1] Not present: the element is not present in the area impacted by the proposed or alternative actions.

[2] Present but no analysis needed: the element may be present, but not affected to a degree that detailed analysis is required.

[3] Present and requires further analysis: the element is present and requires further analysis because :
1) analysis of the issue is necessary to make a reasoned choice between alternatives, or
2) analysis of the issue is necessary to determine the significance of impacts.

AIR QUALITY

Affected Environment: The project area lies within the Western Slope Air Quality Planning Region in Colorado, as categorized by the Colorado Air Quality Control Commission. Class 1 air-sheds in the vicinity of the proposed project include the Tabeguache Wilderness, about 5 miles to the north. Nearby communities include the towns of Nucla (approximately 1.5 miles north) and Naturita (approximately 1 mile south). The Nucla Airport sits adjacent to the gravel pit on the west side and north sides with the nearest runway approximately 1,523 feet from operations. Transportation corridors include CO State Highway 97 (approximately 0.5 mile

east) and CO State Highway 141 (approximately 1.3 miles south). Daytime winds in the area have an average westerly component.

The area complies with federal air quality standards. Air quality concerns in this region primarily are from the impacts of motor vehicles, energy development, sand and gravel operations, windblown dust, and from controlled and uncontrolled wildfires (CDPHE, 2013).

Environmental Consequences:

Proposed Action – Vehicle traffic on unpaved roadway surfaces and gravel mining operations would produce airborne dust. Over 90% of the airborne dust would settle to the ground within approximately 100 feet of the dust source and would not affect the airport runway and area roadways (Walker and Everett, 1987). The distance windblown dust can travel increases during periods of low soil moisture and windy conditions. Other localized impacts would be a temporary air quality degradation caused by exhaust fumes from heavy-equipment engines. When the equipment is shut down, this temporary air quality degradation would end. The operator is required to comply with Colorado State air quality standards as required by their CDRMS operating permit. Design feature number 8 provides methods to achieve compliance.

Mitigation – None

No Action Alternative – The only activity allowed would be reclamation. Similar impacts as those in the proposed action would occur, but to a lesser degree because there would not be active mining and would be less road use.

SOILS

Affected Environment: Soils at the site are comprised of *Barx* fine sandy loam with slopes of 1 to 3 percent whose origin is by eolian deposition. The soils overlay gravel deposits of alluvial or glacial nature that were laid down during the late Pleistocene to early Holocene epoch on top of the Cretaceous age Mancos Shale formation.

Soil has already been removed from 7 acres of the proposed site under the existing permit. The topsoil was stockpiled in a berm surrounding the north side of the pit and contoured to keep storm water within the pit. Topsoil from the berm will be used during reclamation on the previously mined area.

Environmental Consequences:

Proposed Action – Topsoil would be stripped and stockpiled from 13.9 acres of the proposed site. The estimated direct impacts from the removal and stockpile of the topsoil include surface erosion and a loss of soil productivity.

The topsoil stockpiles are projected to be about 1,200 feet by 20 feet and approximately 8 feet in height. Using the Water Erosion Prediction Project tool (USDA WEPP, 2013) to model the potential sediment generated from the stockpiles, approximately 107 lbs. of sediment is expected to be generated from the non-vegetated piles per year based on 30 years of mean annual precipitation events.

The best way to reduce the sediment generated from the stockpiles is to plant vegetation. Planting native vegetation would also keep the soil active and increase the viability of the soil

when used in the reclamation process. After using this re-vegetation scenario, running the same WEPP model tool resulted in a decrease in produced sediment from 107 lbs. to 25 lbs. per year. Design feature number 8 provides a method to achieve regulatory compliance and re-vegetation success.

Mitigation – None

No Action Alternative – The gravel pit site would continue to be authorized by the BLM and the State of Colorado, but would be restricted to reclamation only. Reclaimed areas would be seeded, and once established, sediment produced is expected to be less than the proposed action.

UPLAND VEGETATION

Affected Environment: The acreage of native vegetation is the most relevant vegetation parameter for consideration. Within the 20.9 acre Proposed Action area, 13.9 acres are currently occupied by native vegetation. This vegetation is dominated by Wyoming big sagebrush (*Artemisia tridentata* ssp. *Wyomingensis*), Utah juniper (*Juniperus osteosperma*), blue grama grass (*Bouteloua gracilis*), and needleandthread grass (*Heterostipa comata*). Although the sagebrush is heavily browsed, the vegetation is in good condition, with relatively few weeds and high species diversity. Other plants include a variety of forbs and incidental occurrences of other shrubs.

Environmental Consequences:

Proposed Action – The Proposed Action would eliminate 13.9 acres of native vegetation. There would be nearly 25 acres of long-term native vegetation removed from the site before reclamation is likely to begin. Although best management practices for reclamation and weed control are stipulated, including the use of native seed, the return of a functional, self-sustaining native plant community would likely require several decades. However, design feature number 10 provides a method to achieve long-term regulatory compliance and re-vegetation success.

Mitigation – None

No Action Alternative – There would be no additional loss of native vegetation. Reclamation would occur, and would increase the amount of native vegetation.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES & MIGRATORY BIRDS

Affected Environment: The San Miguel River is not thought to be occupied by the endangered fish species that includes the Bonytail chub, Humpback chub, Razorback sucker, and Colorado pikeminnow. The closest occupied habitat for these four endangered fish is within the Colorado River, approx. 67.4 river miles (53 air miles) downstream from this project.

The San Miguel River is known to contain three fish species considered sensitive by the BLM in Colorado. These include populations of flannelmouth sucker, bluehead sucker, and roundtail chub which occur as high up in the river's drainage system as the Piñon Bridge. The San Miguel River is a popular sport fishery stream which the Colorado Division of Parks and Wildlife

(CPW) has stocked with rainbow trout for many years. Amphibians (including northern leopard frog populations), reptiles, invertebrates, and other species also depend on aquatic habitats in and along the San Miguel River for "welfare factors" (i.e., life stages, cover, food, water, etc.).

The Wyoming big sagebrush flat which is proposed to be mined and the surrounding sagebrush communities offer suitable habitat for Brewer's sparrow, a BLM sensitive species. Populations of Brewer's sparrow have decreased in some parts of their range. The causes of this decline are not well understood, but it is suspected that the decline is due at least in part to a loss of sagebrush habitat. The sagebrush community also offers suitable nesting habitat for sage thrasher, green-tailed towhee, gray flycatcher, loggerhead shrike, sage sparrow, vesper sparrow, and lark sparrow.

Environmental Consequences:

Proposed Action – *Endangered and Sensitive Fish*

Because the four endangered fish species do not inhabit the San Miguel River, no direct impact from the Proposed Action would occur. However, the BLM sensitive species of flannelmouth sucker, bluehead sucker, and the roundtail chub do have the potential to occur as high up in the San Miguel River watershed as the Proposed Action area.

Indirect impacts from the Proposed Action could result in the depletion of 0.2 acre-feet of water from within the Colorado River basin over the project's 10-year operational lifespan. This project falls under BLM Colorado's Programmatic Biological Assessment (PBA) for water depleting activities (excluding fluid minerals development) on BLM lands in the Colorado River Basin in Colorado (BLM, 2008).

In response to BLM's PBA, the USFWS has issued a Programmatic Biological Opinion (PBO) (ES/GJ-6-CO-08-F-0010) on February 25, 2009, which concurred with BLM's determination that water depletions are "Likely to Adversely Affect" the Colorado pikeminnow, humpback chub, bonytail, and razorback suckers. Therefore, the Proposed Action is likely to adversely affect designated critical habitats for these endangered fish along the San Miguel River. However, the USFWS also determined that BLM water depletions from the Colorado River Basin are not likely to jeopardize the continued existence of these fish species and that the BLM water depletions are not likely to destroy or adversely modify designated critical habitat.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated in January, 1988. The Recovery Program serves as the reasonable and prudent alternative to avoid jeopardy and aid in recovery efforts for these endangered fish species resulting from water depletions from the Colorado River Basin. The PBO addresses internal BLM and external private projects, including impoundments, diversions, water wells, pipelines, and spring developments. The USFWS determined that projects that fit under the umbrella of the PBO would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts to the Upper Colorado River Basin if they deplete relatively small amounts of water (less than 100 acre-feet) and BLM makes a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by each project. The PBO instructed BLM to make an annual payment to the National Fish and Wildlife Foundation to cover all BLM authorized actions that result in water depletions. The West-End Gravel pit project could deplete up to 0.2 acre-feet of water from the San Miguel River watershed over the 10-year life of the project. The annual depletion fee for this project is $0.40 ($20.24 x 0.02 acre-feet/year). This project has been entered into the Uncompahgre Field Office

water depletion log which will be submitted to the Colorado State Office (CSO) at the end of the Fiscal Year. The CSO is responsible for paying depletion fees based on the annual statewide total.

Brewer's Sparrow and Other Migratory Bird Species

For the currently disturbed portions of the project site, there is a lack of suitable nesting habitat that makes it unlikely that detectable impacts would occur to migratory bird species that are of conservation concern. The 13.9 acres of new surface disturbance would remove a Wyoming sagebrush area that would result in the loss of nesting habitat for the BLM sensitive Brewer's sparrow as well as other sagebrush obligate species such as sage thrasher, green-tailed towhee, gray flycatcher, loggerhead shrike, sage sparrow, vesper sparrow, and lark sparrow. These migratory species depend entirely on sagebrush communities to nest and rear young. Given the small acreage removed coupled with the reclamation intended to develop a functional sagebrush community, it is unlikely that the Proposed Action would result in a downward trend towards federal listing. Design feature number 10 provides a method to achieve regulatory compliance and re-vegetation success helping to alleviate the impacts to these bird species.

Mitigation – None

No Action Alternative – Because the Proposed Action would not be authorized, there would be no annual water depletion that would affect sensitive and non-sensitive aquatic species as described in the environmental consequences above. Likewise, there would be no additional impacts to suitable nesting habitat for the Brewer's sparrow.

WILDLIFE, TERRESTRIAL

Affected Environment: The project area supports a variety of terrestrial wildlife species including reptiles, small mammals, carnivores, birds, and big game. Some of these species include the cottontail rabbit, least chipmunk, prairie dogs, coyote, bobcat, black bear, mountain lion, elk, mule deer, red-tailed hawk, and a large number of songbird species.

The entire analysis area has been identified by CPW as severe winter range and a winter concentration area for mule deer. The sagebrush community in the analysis area exhibits signs of heavy browsing by wintering mule deer as does all the surrounding sagebrush area on the mesa.

Environmental Consequences:

Proposed Action – The project would remove 13.9 acres of winter forage (sagebrush) for mule deer and general habitat for a wide variety of other upland species. This would incrementally increase demands on adjacent winter concentration areas as well as private hay fields. Long-term, design feature number 10 provides a method to achieve regulatory compliance and re-vegetation success helping to alleviate the impacts to the various terrestrial wildlife species that use this Proposed Action area for winter range.

Mitigation – None

No Action Alternative – The gravel pit site would continue to be authorized by the BLM and the State of Colorado, but would be restricted to reclamation only. The direct and indirect effects of the no action alternative on terrestrial wildlife would be similar to those

described under the Proposed Action; however there would be no additional loss of winter forage habitat for mule deer.

WATER -- SURFACE

Affected Environment: The West-End gravel pit sits at the top of a mesa approximately 1.4 miles from the San Miguel River and drains to a small watershed approximately 470 acres in size. The average annual precipitation at the site is 13.6 inches and the 100-year, 6-hour storm event is 1.98 inches (USGS, StreamStats).

Runoff from the gravel pit is designed to be contained within the pit area. Surface water percolates through one to two feet of gravel before reaching the top of the Mancos Shale formation. During a site investigation, no evidence was found of surface water migrating either vertically or laterally through the bentonitic clay-rich Mancos Shale formation.

There is no storm water management plan associated with the CDRMS mining permit. The State indicated this is likely due to the size of the gravel pit and the time it was originally permitted in the early 1990s. Despite the lack of a storm water management plan, storm water is not causing an environmental problem at this site.

Environmental Consequences:

Proposed Action – Direct impacts within the mine permit area include increased sediment transport through erosional processes such as sheet, gully and rill erosion on the slopes of the topsoil and overburden stockpiles, and potentially surface water contamination from spills or leaks from heavy equipment.

Sediment erosion and transport was analyzed in the Soils section above. With design feature 8 in place, 25 lbs. of sediment is expected to be mobilized from the stockpiles annually. This sediment would dissipate on the surrounding mesa top in the undisturbed vegetation and is not expected to impact any stream channels.

Spills and leaks from equipment would be contained by the same measures as the storm water. All surface flow is channeled and contained within the main pit. Clean up measures such as soil removal and pumping of contaminated surface water would be conducted within the pit. Design feature 5 provides a method to achieve regulatory compliance and prevent impacts from spills entering the surface water drainage system.

Mitigation – None

No Action Alternative – The gravel pit site would continue to be authorized by BLM and the State of Colorado, but would be restricted to reclamation only. As the existing pit is reclaimed, impact to water quality would be reduced.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Equipment needed for the proposed project has the potential for regulated or hazardous waste substance release.

Environmental Consequences:

Proposed Action – There are no anticipated impacts; however, design feature 5 states that the county will comply with all applicable federal laws and regulations concerning toxic and hazardous substances and that releases of these substances will be reported to the UFO Manager. As stated in the Water (Surface) section, any spills and leaks from equipment would be contained in the pit by the same measures as the storm water. Any releases would be immediately cleaned up and removed by the operator in accordance with the Toxic Substances Control Act of 1976. The Proposed Action contains the necessary design feature to mitigate impacts from hazardous wastes.

Mitigation – None

No Action Alternative – The gravel pit site would continue to be authorized by BLM and the State of Colorado, and would be subject to reclamation standards. The only activity allowed would be reclamation.

GEOLOGY AND MINERALS

Affected Environment: The West-End Gravel Pit deposit is a fluvial and glacial Pleistocene pediment bench deposit on top of the Cretaceous Age Mancos Shale formation. Mining efforts have found that the gravel deposit is approximately 12 feet thick. The overburden material thickness ranges from 4 to 10 feet. The deposit contains clay, sand, pebbles and cobbles. There is approximately 1 million tons of gravel remaining in the deposit in the NW¼ of the SW¼ portion of section 17. It's anticipated that the deposit could maintain a 50-year mine life at current annual mine production rates. Reclamation will be conducted as required by the CDRMS mining permit and BLM stipulations.

Environmental Consequences:

Proposed Action – The mineral material resource would be mined as an open pit operation and would provide Montrose County with gravel, sand and fill material resources. A long-term consequence of this action would be permanent removal of these resources. The gravel extraction, in this sense, could be considered to be an irreversible or irretrievable commitment of resources should the Proposed Action be implemented. Design feature 9 contains all the required provisions to insure compliance with the 43 CFR 3600 regulations.

Mitigation – None

No Action Alternative – The gravel pit site would continue to be authorized by BLM and the State of Colorado, and would be subject to reclamation standards. The only activity allowed would be reclamation.

CUMULATIVE IMPACTS SUMMARY

Cumulative impacts could result from the proposed activity when added to the impacts from all other past, present and reasonably foreseeable future activity, regardless of who is conducting such activity. The cumulative impact area for this project is considered to be the 6th level sub-watershed Turtle Draw-San Miguel River.

Historically, the cumulative impact area was agricultural and ranch lands. For over 100-years gravel has been used to reinforce dirt roads in the region. According to CDRMS records, there are currently two other aggregate operations active in the cumulative impacts analysis area, both on private land.

Other actions contributing to impacts, cumulatively, include livestock grazing, coal mining, oil and gas development, electric power generation, uranium mining, vegetation treatments, wildfire, wildlife use, rights-of-ways, recreational use, and travel infrastructure. Private land activities are similar, but also include residential and agricultural activities, and an adjacent airport.

Any cumulative impacts to air quality would generally add incrementally for only short periods of time (less than 5 hours) with no measurable cumulative impacts beyond the localized area.

This project, when combined with the past, present and reasonably foreseeable actions, would cause short term and long term impacts to soil viability. The airport, residential development, farming, grazing, rights-of-ways, and recreation and travel infrastructure also impact soils on BLM and private land. The types of impacts expected from all of the cumulative actions in the watershed would be similar to those described for the Proposed Action. The cumulative effect of all the impacts in the watershed could contribute to decreased soil productivity and a decrease in water quality.

Native vegetation loss is occurring at a low level across the larger area which surrounds the site. Agriculture, development, strip mining for coal, and spread of noxious weeds are all degrading or removing native vegetation. Some recovery of native vegetation is also occurring in the area where reclamation of past mined lands has been successful. The Proposed Action will incrementally add to the loss of native vegetation over the short-term, although recovery is expected over the long-term.

The Proposed Action would deplete 0.02 acre-feet of water annually from the Colorado River system for 10 years. Water depletions, when considered cumulatively in the Upper Colorado River Basin, is a substantial negative impact to the four endangered fish species and are inhibiting the recovery of these species. The water depletion proposed under this project is likely undetectable when compared with river depletions occurring elsewhere in the region.

Past, present, and reasonably foreseeable impacts to the Brewer's sparrow and other wildlife in the analysis area include features such as the regional airport, two additional private gravel pits, and the Nucla power plant. These features have resulted in complete removal or degradation to sagebrush habitat in which the Brewer's sparrow uses for reproduction, and upon which several terrestrial species depend upon for all life processes. The Proposed Action when considered cumulatively with these other features would contribute to local population level declines in the analysis area for birds and for smaller terrestrial mammals. According to the Rocky Mountain Avian Data Center's population estimates database, there are an estimated 200,000 individual Brewer's sparrow birds in the state of Colorado which is estimated to comprise 1.6% of the global population.

The project, cumulatively, would contribute to short-term and long-term impacts to water quality. The airport, residential development, farming, grazing, rights-of-ways, and recreation and travel infrastructure also contribute to water quality impacts, similar to those described for

the proposed action. The cumulative effect of all the impacts in the watershed is decreased water quality.

Mining activities would not result in cumulative impacts to geology or minerals. The mining activity from this operation when combined with the regional mining activities from other operations on BLM managed lands and private areas would not add more than a negligible amount of mineral material removal to the cumulative impacts on the environment from the regional mining activity.

INTERDISCIPLINARY REVIEW: The following BLM personnel have contributed to and have reviewed this environmental assessment.

Name	Title	Area of Responsibility
Robert Ernst	Geologist	Lead, Wastes – Hazardous or Solid, Geology and Minerals
Ken Holsinger	Biologist/T & E	Threatened and Endangered Species, Sensitive Species, Migratory Birds, Wildlife - Terrestrial
Jedd Sondergard	Hydrologist	Soils, Water Resources - Surface
Bruce Krickbaum	NEPA Coordinator	NEPA
Kelly Homstad	Fire Use Specialist	Air Quality
Amanda Clements	Ecologist	Upland Vegetation
Angela Losasso	Range Conservationist	Invasive, Non-Native Species
Glade Hadden	Archeologist	Cultural Resources

References

BLM, 2008. Programmatic Biological Assessment for BLM Actions in Western Colorado re: Water Depletions and Effects on the Four Endangered Big River Fishes: Colorado pikeminnow (Ptychocheilus lucius), humpback chub (Gila cypha), bonytail chub (Gila elegans), and razorback sucker (Xyrauchen texanus). Denver, Colorado.

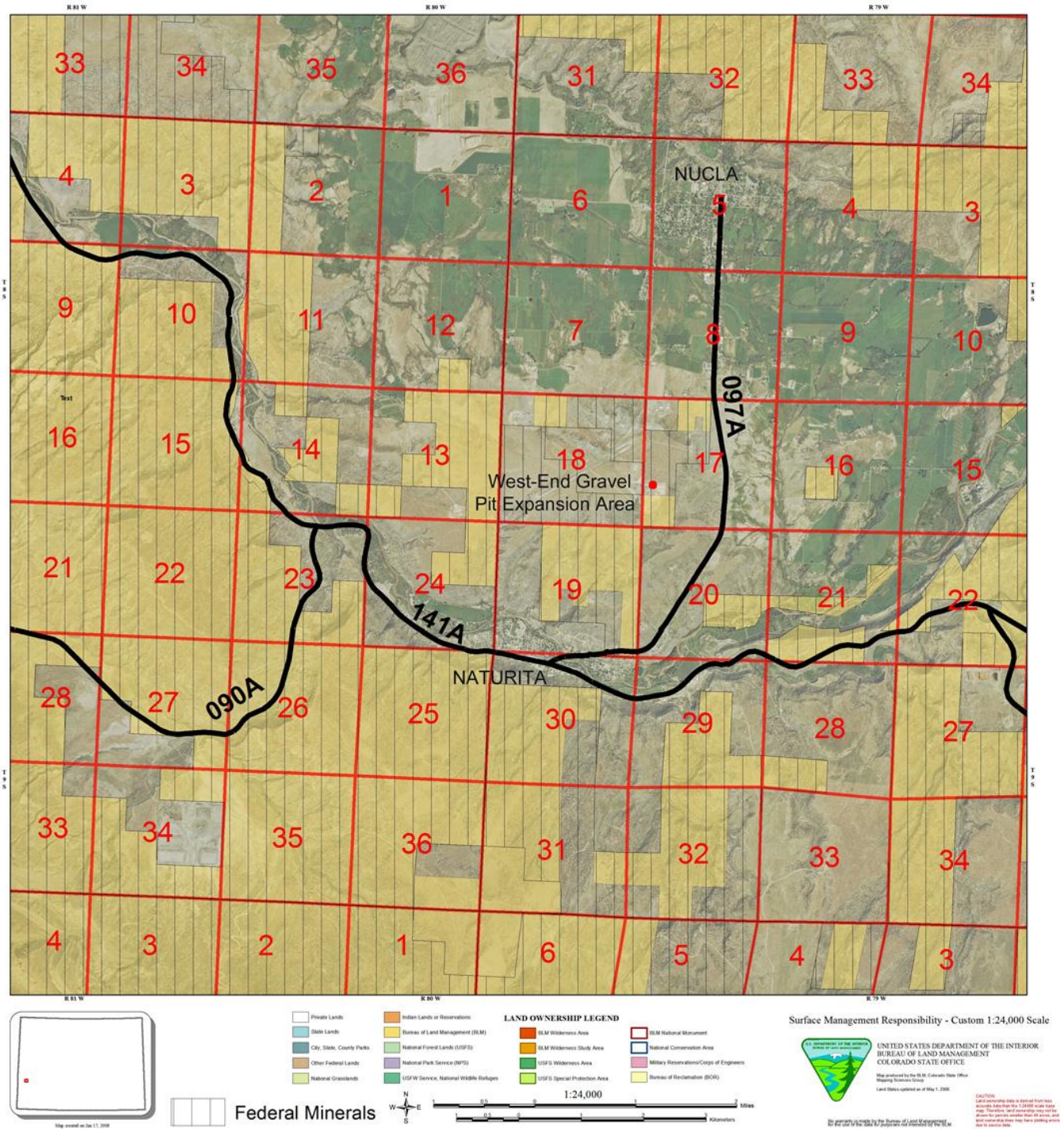
CDPHE, 2013. Colorado Air Quality Control Commission Report to the Public 2012-2013. Colorado Air Quality Control Commission. [Available online at http://www.colorado.gov/cs/Satellite/CDPHE-AQCC/CBON/1251592947802].

Elliot, William J.; Hall, David E. 2010. Disturbed WEPP Model 2.0. Ver. 2013.07.01. Moscow, ID: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Online at http://forest.moscowfsl.wsu.edu/fswepp

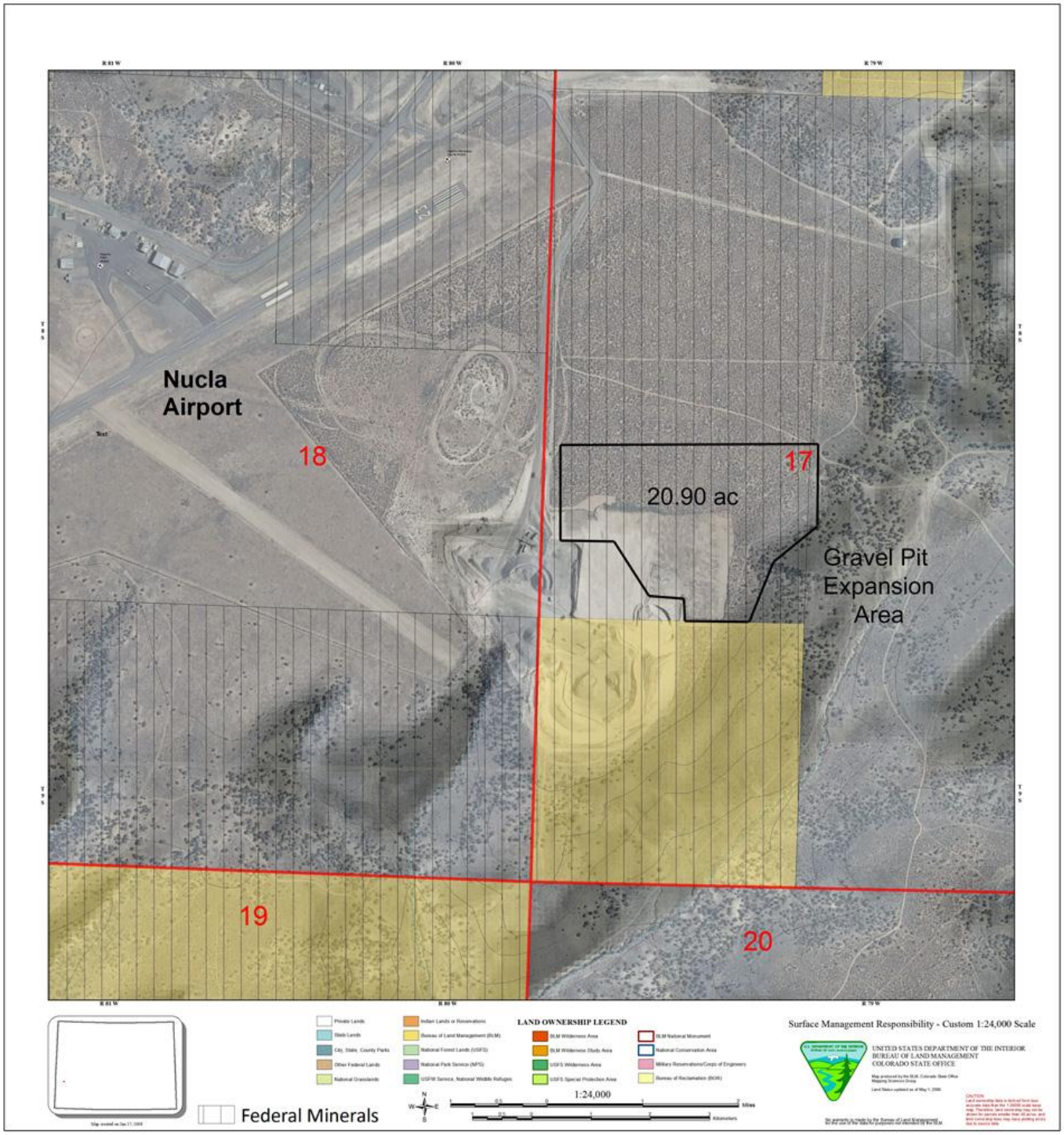
Walker, D. A. and K. R. Everett, 1987. Road Dust and Its Environmental Impact on Alaskan Taiga and Tundra. Arctic and Alpine Research , Vol. 19, No. 4, Restoration and Vegetation Succession in Circumpolar Lands: Seventh Conference of the Comité Arctique International (Nov., 1987) , pp. 479-489. Published by: INSTAAR, University of Colorado [Article Stable URL: http://www.jstor.org/stable/1551414].

Ries, K.G., III, Steeves, P.A., Guthrie, J.D., Rea, A.H., and Stewart, D.W., 2009. Stream network Navigation in the U.S. Geological Survey StreamStats Web Application, pp. 80-84.

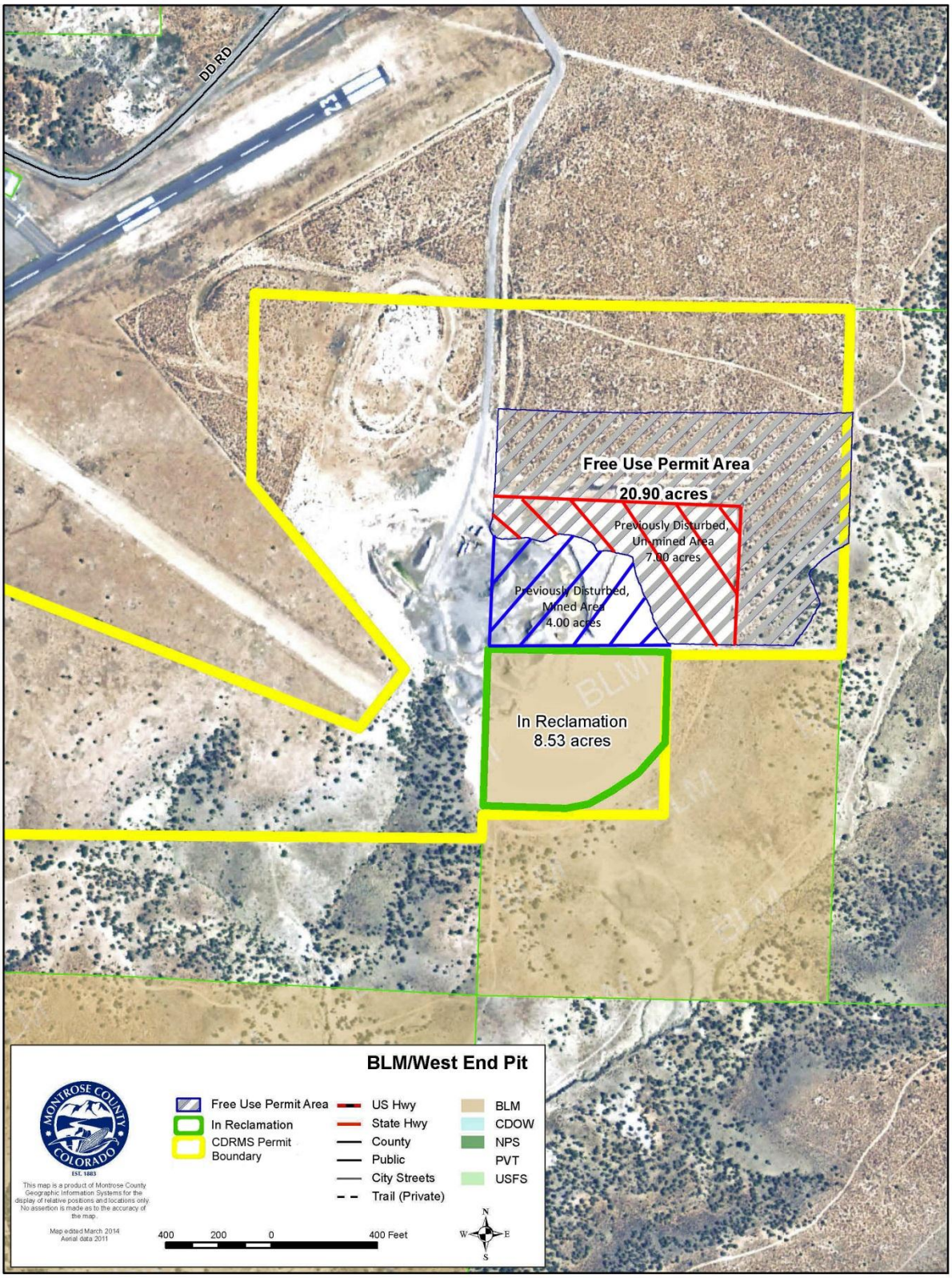
Appendix A



Map 1: Project Location Map



Map 2: Pit Location Map



Map 3: Montrose County's West-End Pit Project Area Map

Appendix B

Photo1: Pit wall face, averaging approximately 12 feet in height

Appendix C

Volume Calculation (rough estimation)

Expansion Pit length x width = 1000' x 980' = 980,000 sq.ft.

plus extra irregular area = (573' x 195') / 2 = 55,868 sq.ft.

Total Area = 980,000 sq.ft. + 55,868 sq.ft. = 1,035,868 sq.ft.

less the triangular area already mined = (730' x 840')/2 = 306,600 sq.ft.

TOTAL EXPANSION PIT : SURFACE AREA =
1,035,868 sq.ft. - 306,600 sq.ft. = **729,268 sq. ft**.

at 12' thickness of gravel / fill material, volume of permit = 12' x 729,268 sq.ft. = 8,751,226 cu.ft.

- conversion to cubic yards

  27 cu.ft./cu.yd. : 8,751,226 cu.ft. / 27 cu.ft./cu.yd. = **324,119 cu.yd.**

- conversion to tons

  one cubic yard of material weighs about 1.37 tons

  324,119 cubic yards x 1.35 tons/cu.yd. = **444,043 tons**

- Conclusion: the West-End Pit expansion area proposed by Montrose County contains at least their requested 400,000 tons mined to a depth of 12 feet.

Surface Disturbance Calculation

Existing Surface Disturbance from previous permits: 8.53 ac (BLM surface) + 11.00 ac (4 ac mined + 7 ac un-mined) on Pvt. Surface lands = **19.53 acres**

Proposed New Surface Disturbance (Pvt. Surface): 20.9 ac – 7 ac (existing disturbance on un-mined Pvt. Surface lands) = **13.9 acres**

Reclamation Required by CDRMS mining permit M-1992-017

(19.53 ac existing + 13.9 ac proposed) – 25 acre CDRMS mining permit limitation =
33.43 ac – 25 ac = **8.43 acres**

Acres of new disturbance allowed until the 25 acre limit is reached: 25ac – 19.53ac = **5.47ac**